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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,960	05/18/2001	Yasuji Hiramatsu	205240US0PCT	6669
22850	7590	02/24/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LAM, CATHY FONG FONG	
			ART UNIT	PAPER NUMBER

1775
DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/807,960	Applicant(s) HIRAMATSU ET AL.	
	Examiner Cathy Lam	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 11, 12 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

In view of the amendment filed on October 8th 2003, the pending claims are unpatentable as following:

Claim Rejections - 35 USC § 112

1. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Although Table I shows properties of the claimed ceramic heater, but there is no clear indication in Table I (on page 34) that shows the ceramic heater is capable one way or the other of use at a temperature above 200°C.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented, or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-6 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawai et al (US 5279886).

Kawai teaches a ceramic heater comprised of heater electrode and a ceramic base layer (col 1 L 5-8).

The ceramic base layer is a sintered alumina body which is an oxide ceramic (col 2 L 13-20). A heater electrode is printed on the ceramic base layer and sintered simultaneously (col 2 L 11-13).

The ceramic heater after sintered has no open pores (col 6 L 1-10).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al (US 5279886) in view of Ketcham (US 5338598).

Kawai discloses a ceramic heater comprised of a ceramic base layer and an electrode. The ceramic base layer is an alumina material or an oxide material. Kawai does not teach that the ceramic base layer can be a non-oxide, a carbide or a nitride material.

Ketcham teaches a composite article comprised of a sinterable ceramic material. The sinterable ceramic material includes an oxide ceramic, a non-oxide ceramic, aluminum nitride, carbides, etc. (col 4 L 65-col 5 L 6).

The sintered ceramic material exhibits zero open porosity (col 3 L 42-44).

Ketcham teaches many ceramic materials that can be used to make the composite article. Ketcham also teaches that any modification and variation can be done to achieve a desired article by one skill in the art (col 12 L 4-12).

Kawai is silent about having a Peltier device on the surface of the ceramic base layer.

Art Unit: 1775

It would have been obvious to include any electronic component(s) and/or device(s) on a ceramic substrate because it is conventional to do so.

2. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al (US 5683606) in view of Ketcham (US 5338598).

Ushikoshi discloses a ceramic heater comprised of a substrate and a resistive heating element.

The substrate is made of aluminum nitride and the resistive heating element is buried in the substrate (col 3 L 39-40). Sintering aid in an amount of 5 wt% is added to the aluminum nitride (col 7 L 11-13). Ushikoshi also discloses that the heater could be heated up to 1000 °C or more (col 11 L 46 & col 5 L 43-45).

Ushikoshi is silent about the porosity of the substrate, nor does it mention the dimensions of the substrate.

Ketcham teaches a void free ceramic composite article comprised of a ceramic material such as aluminum nitrides and a stabilizer (i.e. Y_2O_3 or a sintering aid) (col 11 L 50-52, col 5 L 4 and col 9 L 2-3).

In view of the prior art teachings, one skill in the art would fabricate a ceramic substrate with $< 15 \times 10^{11}$ pores because ceramic nitride material with sintering aid is well known to form no pores ceramic layers.

Regarding to the dimensions of the ceramic substrate, such would be a matter of design choice.

Double Patenting

3. Claims 13-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, and 6 of U.S. Patent No. 6,465,763. Although the conflicting claims are not identical, they are not patentably distinct from each other because the two products are structurally and materially the same.

4. Claims 13-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2-6, 8-9, and 16-19 of U.S. Patent No. 6,677,557. Although the conflicting claims are not identical, they are not patentably distinct from each other because the two products are structurally and materially the same.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Allowable Subject Matter

6. Claims 11-12 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if incorporate into independent claims.

Response to Arguments

5. Applicant's arguments filed on Oct. 8th 2003 have been fully considered but they are not persuasive.

Applicant has shown no evidence on Kawai's reference which may contain closed pores or having 19.0×10^{11} pores per m^2 .

Ketcham's reference was to show a sintered ceramic material which includes an oxide ceramic, a non-oxide ceramic, nitride and carbide material, which can be formed into a composite material that exhibits zero open porosity.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not


Art Unit: 1775

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cathy Lam
Primary Examiner
Art Unit 1775

cfl
February 11, 2004